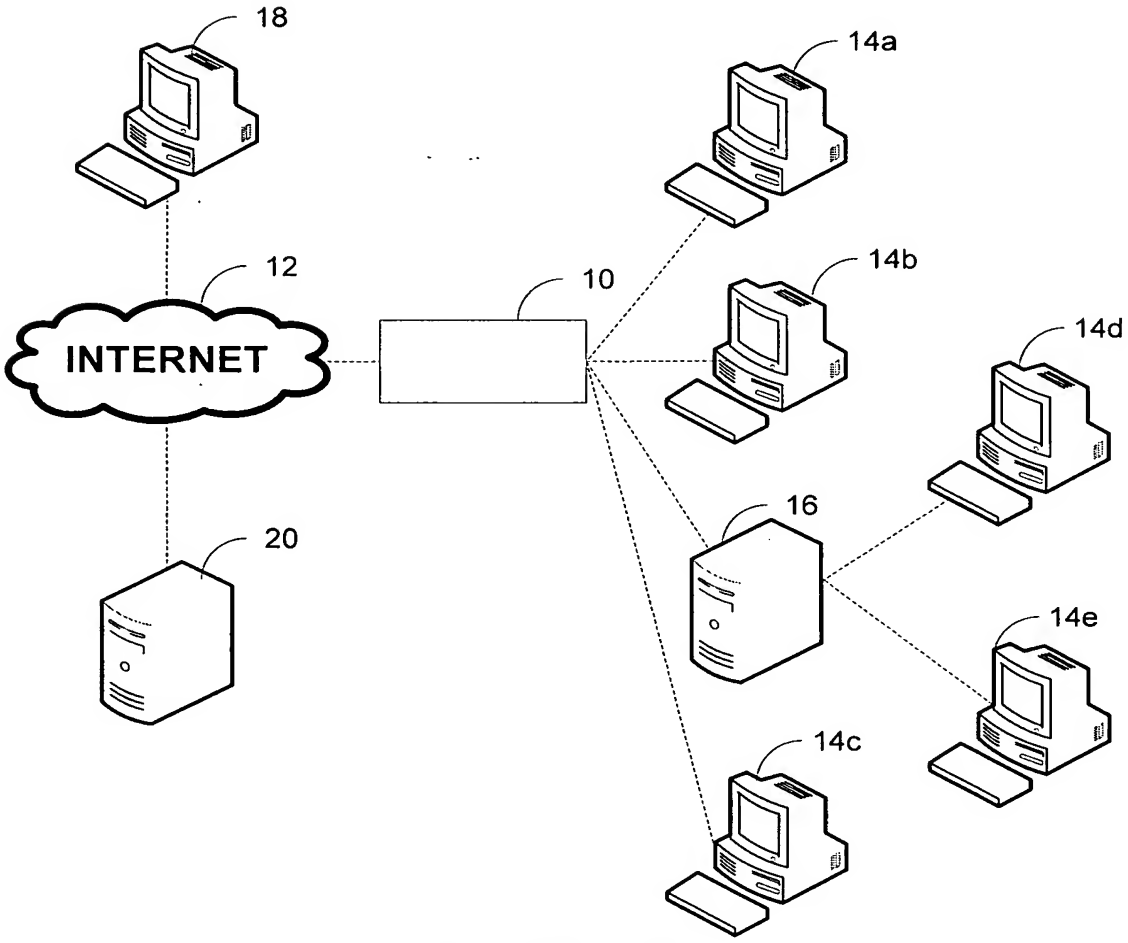

FIG. 1

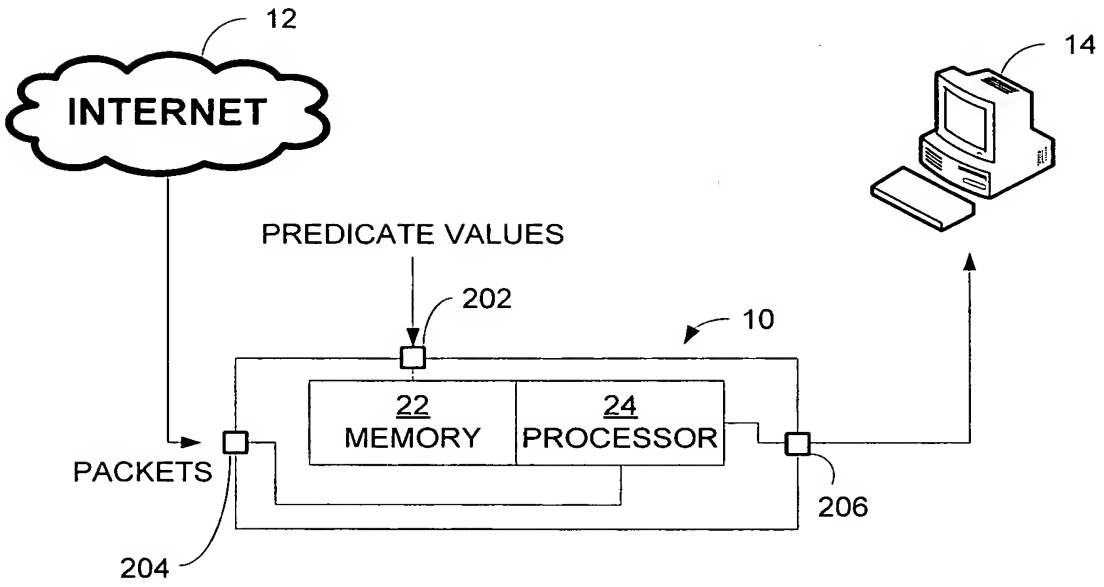
12
INTERNET
14
PREDICATE VALUES
202
10
22
MEMORY
24
PROCESSOR
PACKETS
206
204

FIG. 2

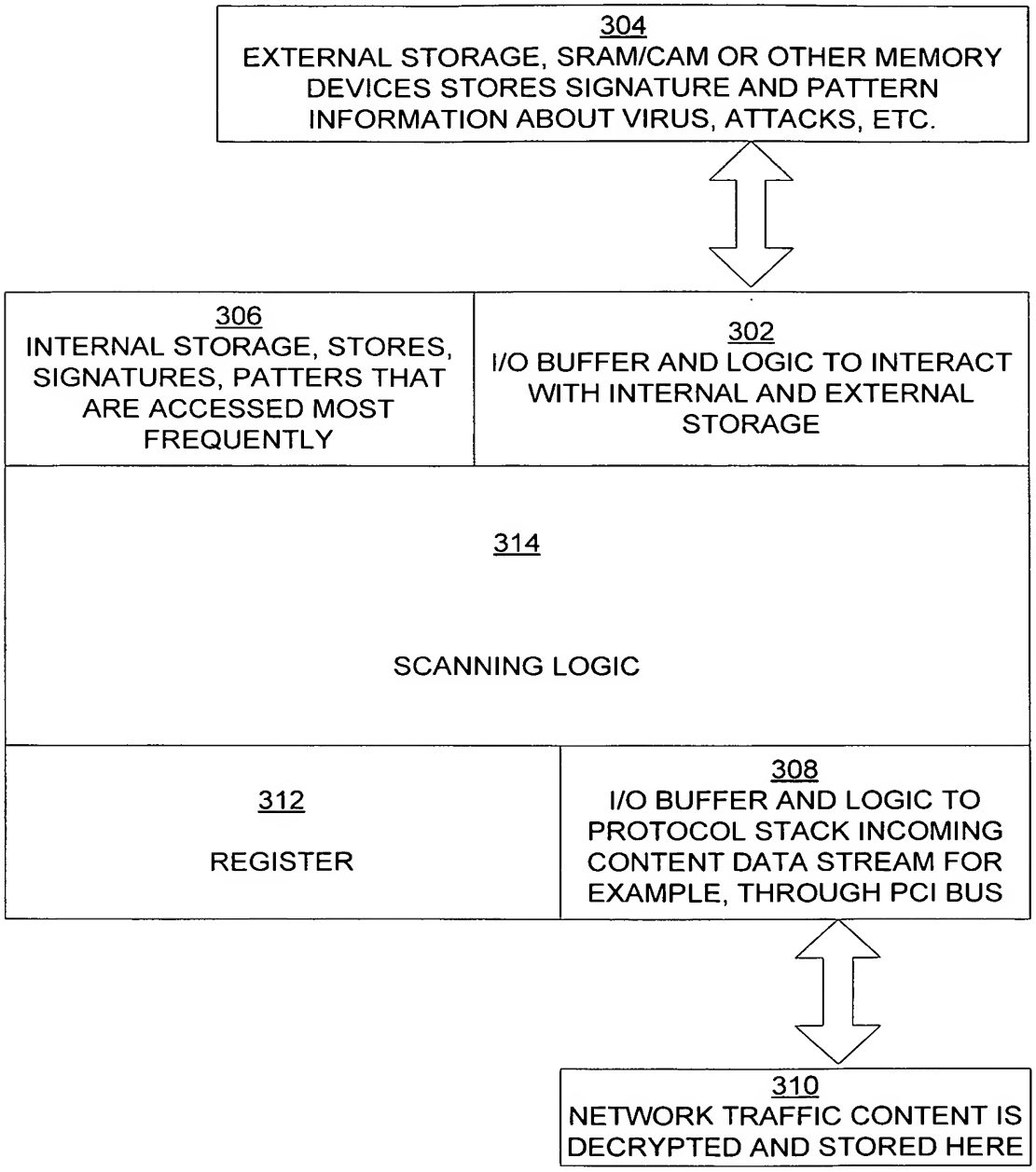
304
EXTERNAL STORAGE, SRAM/CAM OR OTHER MEMORY DEVICES STORES SIGNATURE AND PATTERN INFORMATION ABOUT VIRUS, ATTACKS, ETC.
306
INTERNAL STORAGE, STORES, SIGNATURES, PATTERS THAT ARE ACCESSED MOST FREQUENTLY
302
I/O BUFFER AND LOGIC TO INTERACT WITH INTERNAL AND EXTERNAL STORAGE
314
SCANNING LOGIC
312
REGISTER
308
I/O BUFFER AND LOGIC TO PROTOCOL STACK INCOMING CONTENT DATA STREAM FOR EXAMPLE, THROUGH PCI BUS
310
NETWORK TRAFFIC CONTENT IS DECRYPTED AND STORED HERE

FIG. 3

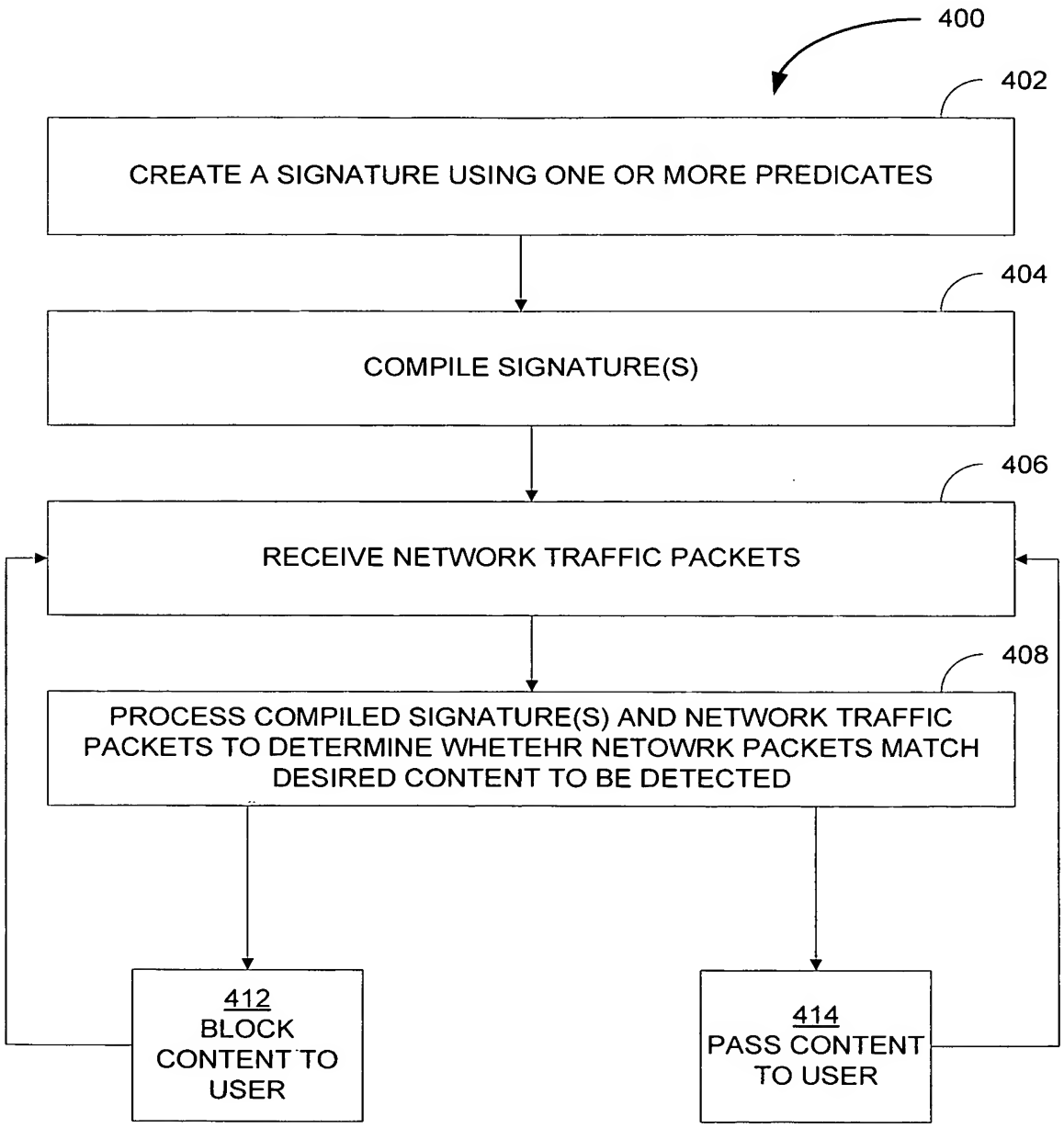
400
402
CREATE A SIGNATURE USING ONE OR MORE PREDICATES
404
COMPILE SIGNATURE(S)
406
RECEIVE NETWORK TRAFFIC PACKETS
408
PROCESS COMPILED SIGNATURE(S) AND NETWORK TRAFFIC PACKETS TO DETERMINE WHETEHR NETOWRK PACKETS MATCH DESIRED CONTENT TO BE DETECTED
412
BLOCK CONTENT TO USER
414
PASS CONTENT TO USER

FIG. 4

502 ID	512 RETURN	504 PREDICATE	506 MNEMONIC	508 FAMILY	510 DESCRIPTION
A	B	A(Z)	ASCII	TEST	TEST LITERAL STRING
B	B	B(M)	BITMASK	TEST	TEST USING BITMASK
C	V	C()	CASE	DECISION	BRANCH USING MULTIPLE CASES
D	V	D(LABEL)	DO	ITERATION	START LOOP (ENDS ON LABEL)
E	V	E(F,B,B,...)	EACH	ITERATION	REPEAT FUNCTION WITH EACH BYTE IN LIST
F	V	F(N, F)	FOR	ITERATION	REPEAT FUNCTION ON N BUFFER BYTES
G	V	G(LABEL)	GOTO	DECISION	GOTO LABEL IN SIG
H	B	H(D)	HEURISTIC	TEST	TEST D AGAINST HEURISTIC FLAGS
I	V	I(F, L)	IF	DECISION	IF TEST F BRANCH ELSE CONTINUE
J	V	J(SIZE)	JUMP	POINTER	JUMP USING BUFFER VALUE OF SIZE
K	B	K(RESERVED)	KEYWORD	FUNCTION	PROCESS KEYWORD
L	B	L(B)	LITERAL	TEST	TEST LITERAL
M	V	M(NAME)	MACRO	FUNCTION	EXECUTE MACRO NAME
N	B	N(LOGIC)	NEAR	TEST	TESTING USING RELATIVE LOGIC
O	B	O(N, METHOD)	ORDER	TEST	ORDER (SORT) N BUFFER BYTES USING METHOD
P	V	P(NAME)	PROCESS/PROCEDURE	FUNCTION	EXECUTE PROCESS NAME
Q	B	Q(LOGIC)	QUERY	TEST	TEST USING RANGED LOGIC
R	V	R(P)	REWIND	POINTER	RESET BUFFER STREAM POINTER
S	B	S(N,K)	SEEK	POINTER	REPOSITION BUFFER STREAM POINTER
T	B	T(LOGIC)	TEST	TEST	TEST USING POSITIONAL LOGIC
U	B	U(Z)	UPPERCASE	TEST	TEST AFTER UPPERCASING BUFFER STRING
V	B	V(LOGIC)	VARIABLE	TEST	TEST USING SET SUMMATION
W	B	W (C)	WILDCARD	TEST	SIMPLY (ONE BYTE) WILDCARDS
X	B	X(B)	XRAY/XOR	TEST	TEST USING XOR MASK BASED ON B

FIG. 5

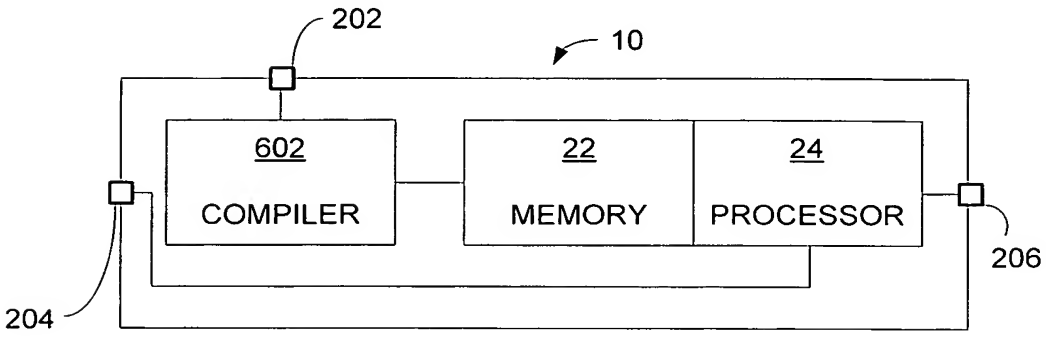
202
10
602
COMPILER
22
MEMORY
24
PROCESSOR
206
204

FIG. 6

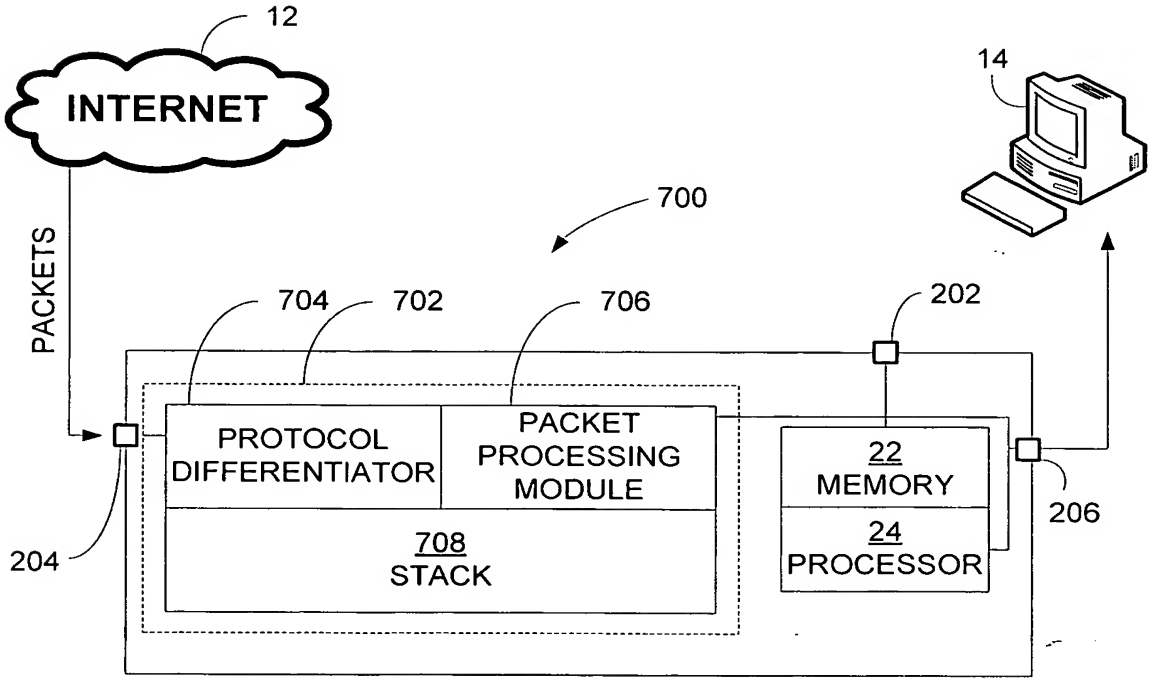
12
INTERNET
14
700
PACKETS
704
702
706
202
PROTOCOL DIFFERENTIATOR
PACKET PROCESSING MODULE
708
STACK
22
MEMORY
24
PROCESSOR
206
204

FIG. 7

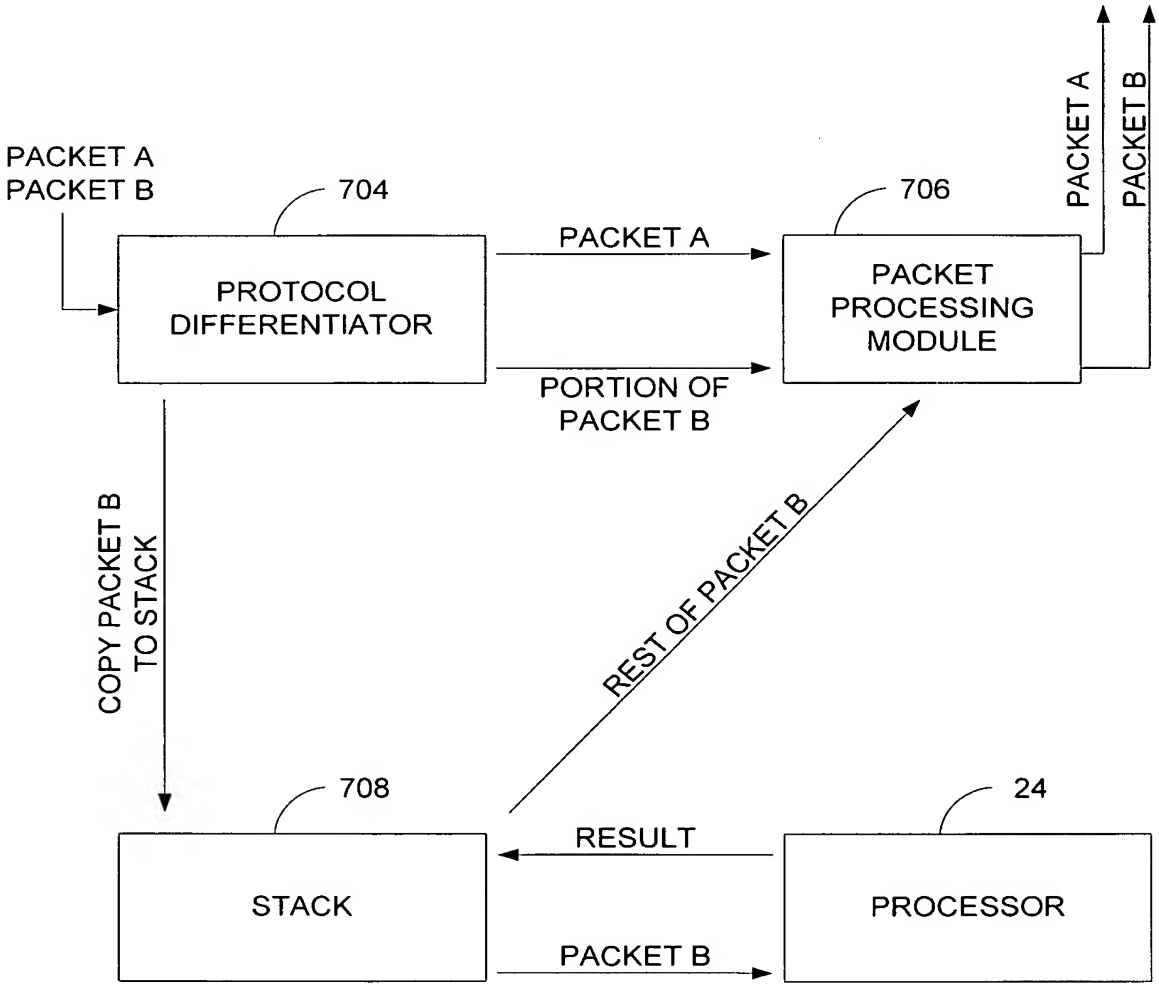
PACKET A
PACKET B
704
PROTOCOL DIFFERENTIATOR
PACKET A
PORTION OF PACKET B
706
PACKET PROCESSING MODULE
PACKET A
PACKET B
COPY PACKET B TO STACK
REST OF PACKET B
708
STACK
RESULT
PACKET B
24
PROCESSOR

FIG. 8

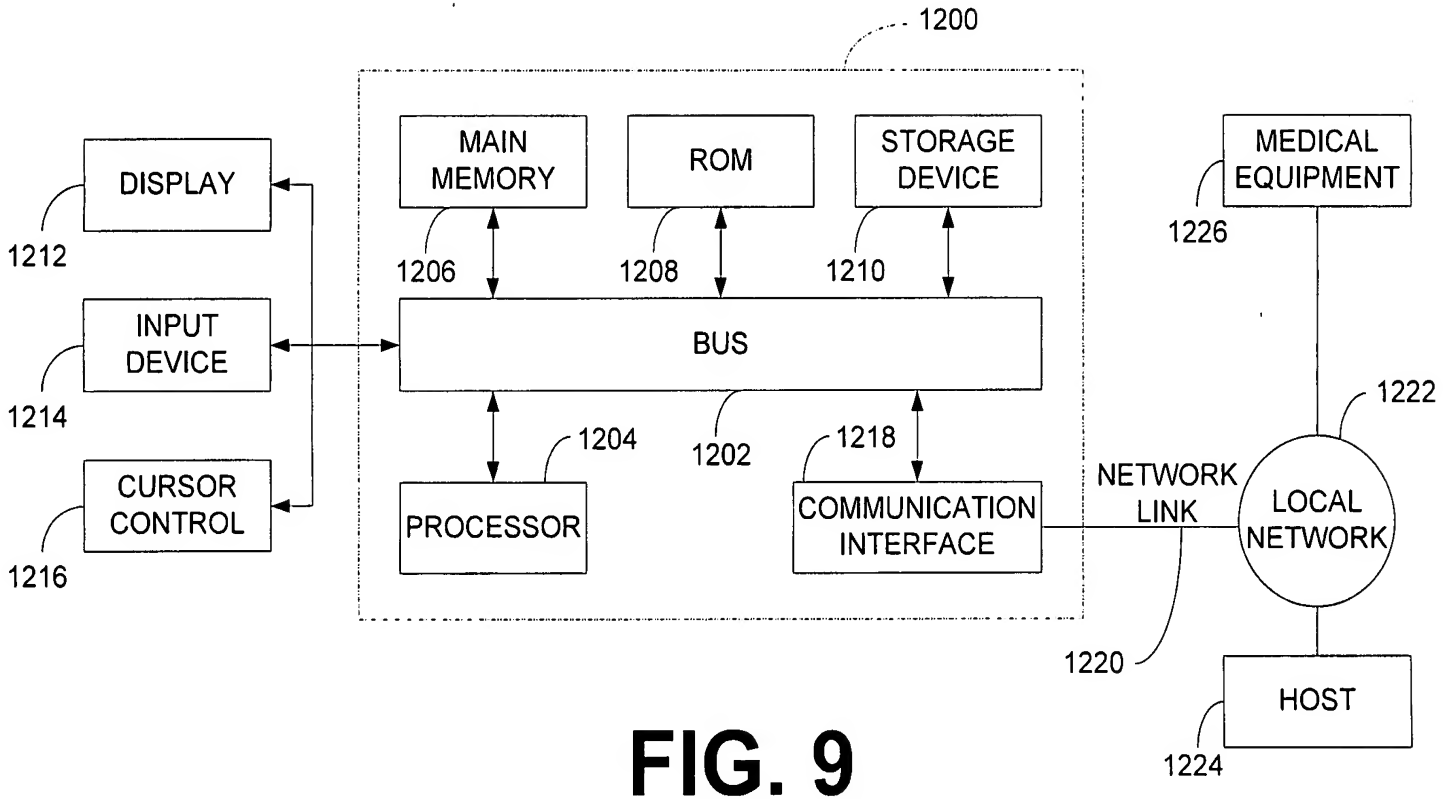
1200
DISPLAY
1212
INPUT DEVICE
1214
CURSOR CONTROL
1216
MAIN MEMORY
1206
ROM
1208
STORAGE DEVICE
1210
BUS
1202
1204
PROCESSOR
1218
COMMUNICATION INTERFACE
NETWORK LINK
1220
LOCAL NETWORK
1222
MEDICAL EQUIPMENT
1226
HOST
1224

FIG. 9